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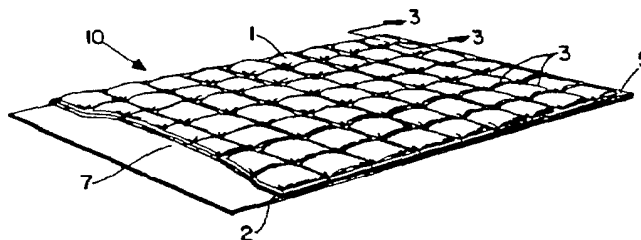
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⑥④ **Cleansing article and method of use thereof.**

⑤⑦ A cleansing article especially adapted for the care and maintenance of the perineal area of infants or incontinent patients comprises a high loft wiping surface made up of a web of resilient fibers. Said fiber web is characterized by a high usable void volume, even under hand pressure. For stability, the fibrous web is affixed to a web-backing material. The web releasably contains an oleaginous cleansing agent. In use, the article is employed as a wiping pad with the web in contact with the patient's skin. When wiped across skin soiled with fecal

matter, the oleaginous cleansing agent is released from the web to coat skin and fecal matter to prevent spreading and re-deposition. The high usable void volume of the wiping surface provides a high retention capacity for the fecal matter, thereby affording its convenient removal and sanitary disposal. The web-backing material provides dimensional stability to the web and protects the user's hand from contact with fecal matter or oleaginous cleansing agent.



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CLEANSING ARTICLE AND METHOD OF USE THEREOF

The present invention relates to an article of manufacture, said article being especially useful for cleansing surfaces, especially skin. While the article herein is suitable for a variety of uses where a high
5 loft fabric with extremely low compressibility and very high usable void volume is desirable, the present article is especially useful for removing feces from the perineal region of infants or other incontinent persons.

Maintaining optimal hygiene in the perineal region of
10 infants and incontinent patients, especially non-ambulatory or geriatric patients, has always been a difficult and unpleasant task. Of course, the perineal region can be adequately cleansed after defecation using soap and water, but this is inconvenient. Accordingly, common practice is
15 to use disposable paper products, generally referred to as toilet tissue, for anal cleansing.

One problem associated with the use of common, dry toilet tissue for cleansing elderly and ill, incontinent patients is that such dry products are not very effective
20 for removing fecal residues. Common practice is for the attendants caring for such patients to increase wiping pressure to remove stubborn fecal residues, but that can result in discomfort and skin irritation for the patient.

A variety of "pre-moistened", disposable, tissue-type wiping articles are commercially available, and have been taught for use in cleansing the perineal area. However, these products suffer from the disadvantage that, being
5 made from relatively thin, low-loft, paper structures, they do not have a high retention capacity for solid fecal matter. As a result, multiple sheets and multiple wipes must be used to remove the high fecal loads often encountered with geriatric patients, for example. Moreover,
10 multiple wiping with a single sheet is rather ineffective since the fecal matter is spread over the skin. These problems are overcome by means of the high retention capacity of the present articles, and the oleaginous cleansing agent which does not undesirably dilute and
15 smear the fecal matter.

U.S. Patent 4,112,167, to T. W. Dake, J. S. Clunie, and A. D. Early, issued September 5, 1978, described the problems associated with perineal cleansing, and discloses a skin cleansing product containing a lipophilic
20 cleansing emollient, said product being designed to overcome some of the problems associated with the dry, high-density tissue-paper products commonly used for removing fecal matter from the perineal skin.

The present invention provides a cleansing article
25 whose extremely high loft (as compared with the article of U.S. Patent 4,112,167) wiping surface provides an extremely high retention capacity for fecal matter. This high-capacity wiping surface, used in conjunction with an oleaginous cleansing agent, provides an extremely convenient article which completely and quickly rids the
30 skin of large amounts of fecal matter with, essentially, a single wipe.

BACKGROUND ART

Anal cleansing products with high void volumes (relative to standard, high density toilet tissue) and lipophilic cleansing emollients are disclosed in U.S. Patent 4,112,167, cited hereinabove.

5 A number of U.S. patents cited in U.S. Patent 4,112,167 relate, in a general way to webs used for skin cleansing and/or various cleansing materials. See, for example U.S. 2,902,395; 2,999,265; 3,150,049; 3,310,454; 3,366,532; 3,595,731; 3,708,435; 3,759,775; 10 3,818,105; 3,823,057; 3,829,563; 3,881,210; 3,896,807; 3,949,130; 3,993,820 and 3,994,771.

SUMMARY OF THE INVENTION

According to the present invention there is provided a cleansing article comprising a web of fibrous material
15 of basis weight in the range from 17 g/m^2 - 70 g/m^2 releasably containing an oleaginous substantially water-free cleansing agent wherein the web (1) comprises (a) a high loft wiping surface formed of resilient fibers, the web having a high usable void volume under compression and
20 (b) a web backing material (2) secured to the web.

Preferred articles herein are those wherein the fibers which comprise said web are crimped.

Typical articles herein are characterized by a web having an uncompressed thickness in the range from 2 mm
25 to 15 mm, or thicker. The articles herein are characterized by a web having a basis weight in the range from 17 g/m^2 to 70 g/m^2 . Preferred articles are those wherein the web has an uncompressed thickness in the range from 4 mm to 5 mm and a density which increases on compression from
30 0.01 g/cm^3 uncompressed to 0.04 g/cm^3 when compressed under hand pressure; highly preferred are articles having the aforesaid preferred range of thickness and density, and wherein the fibers comprising the web are crimped.

The present articles are characterized by a usable void volume under a compression of from 7.75 g/cm^2 to 15.5 g/cm^2 of at least 90%. The highly preferred articles of the present type wherein the fibers are crimped can have usable void volumes which are frequently at least 95% even when compressed under typical hand wiping pressure (7.75 g/cm^2 - 15.5 g/cm^2).

In the process aspect of the invention a process for cleaning fecal matter from skin comprises contacting said fecal matter with sufficient of a substantially water-free oleaginous cleansing agent to assist in the removal of the fecal matter from the skin and wiping the skin with an article comprising a web of fibrous material to remove said fecal matter wherein the skin is wiped with an assembly comprising a) a web having a high loft wiping surface composed of resilient fibers, said web having a high usable void volume under compression, and b) a web-backing material affixed to said web.

The resilient fibers used to manufacture the web portion of the articles of this invention are preferably hydrophobic. Fibers having an average fiber diameter from 0.009 mm to 0.075 mm are especially useful; a preferred diameter range is from 0.0185 mm to 0.037 mm. Commercially-available hydrophobic polyester fibers or polyolefin fibers are conveniently used. Crimped polyester fibers having an average diameter from 0.0185 mm to 0.037 mm, especially fibers having an average length, in the crimped state, in the range from 7.6 cm to 15.5 cm, are especially useful, for reasons described more fully hereinafter. Tow (continuous strands of fibers) can also be advantageously used in this invention.

By "high loft wiping surface" herein is meant the surface of the article designed to pick up and retain particulate soils, e.g., fecal matter. The term "high loft" denotes that the web comprising the wiping surface is substantially thicker in the Z-direction (on the order of millimeters, as disclosed hereinabove) than the more typical toilet tissues, which have a much thinner Z-dimension (on the order of fractions of a millimeter) than articles of the present type.

By "web" herein is meant a carded or otherwise entangled network of fibers. Carded webs suitable for use in the practice of the present invention can have the fibers all aligned substantially unidirectionally, although interwoven and cross-lapped webs can be used.

Examples of non-carded webs useful in the invention are airlaid webs, webs made by the well-known Rando-Web Process which uses equipment marketed by Rando Machine Corporation of Macedon, New York, and, in general, nonwoven webs of any type having the requisite high loft. Should tow be used in this invention, the web can be prepared by any of the well known techniques used to open or disorient the crimped fiber tow.

By "resilient fibers" herein is meant fibers which resist compression, and which return to substantially their original confirmation when compression is released. The web of resilient fibers employed in this invention
5 which are resistant to compression in the Z direction are to be contrasted with fabrics such as cashmere, which, although having a relatively high loft, readily collapse on use since the fibers are aligned substantially parallel to the Z-direction. High loft fabrics such as
10 cashmere are not usable herein since their collapse in-use renders them non-retentive to the high loads of solid waste matter that the articles of the present type are designed to pick-up and retain.

By "releasable containing" is meant that, in use,
15 the oleaginous cleansing agent is released from the wiping surface onto the waste matter present on the surface being wiped and the underlying surface.

The "oleaginous cleansing agent" and the "web-backing material" are defined and exemplified hereinafter.

20 By manufacturing the high loft wiping surface of the present articles from a web of resilient fibers, the articles of the present invention are provided with a high usable void volume, even under compression, especially under typical hand pressures, as would be
25 encountered in cleansing the perineal region of a patient.

By "void volume" is meant the volume of the substrate which is not occupied by the fibers or oleaginous cleansing agent (and which varies somewhat with applied pressure).

30 By "high usable" is meant that the void volume is highly accessible to solid residues, such as feces, due to the large continuous void spaces in the web structure, even under hand pressure, such as would be encountered in a typical perineal cleansing procedure, or the like. The
35 high usable void volume of the web provides high pick-up and retention for solid waste, especially fecal matter. For example, articles of the present type having a web ca 2 mm thick (compressed under hand pressure) pick-up

and retain ca 0.04-0.2 g of feces/cm² in a single wipe (i.e., under non-equilibrium conditions).

All percentages herein are by weight, unless otherwise specified.

5 Description of the Drawings

Figure 1 is a perspective view of a preferred article 10 of the present type, said article comprising a fibrous web 1, said web being sealed to web-backing 2 with web seals 3 in a rectilinear pattern. In the article depicted, 10 an optional, but preferred, scrim 4 is also affixed to the web backing. In the article depicted, the composite web/web-backing/scrim is sealed around three-fourths of its periphery with a peripheral seal 5 to optional, but preferred, rear backing 6, thus providing the convenient 15 mitt-like article shown in Figure 1, with an un-sealed area 7 into which the user's hand fits.

Figure 2 is a perspective view of the individual elements of the preferred article 10 showing the sequence of assembly of the fibrous web 1, web backing 2, and scrim 20 4 to form the composite layer 11 which is then sealed to rear backing 6, as previously described, to form article 10.

Figure 3 is an enlarged cross sectional view taken along section line 3-3 of Figure 1, showing one area of the fibrous web 1, web backing 2, web seal 3 and peri- 25 pheral seal 5, scrim 4, rear backing 6, and a portion of the peripheral un-sealed area 7 into which the user's hand can be placed.

Figure 4 is a microscopic picture (100X; scanning electron microscope) of a typical web of fibers of the 30 type used in the present article. The fibers in Figure 4 are not coated with the oleaginous cleansing agent.

Figure 5 is a microscopic view (100X; scanning electron microscope fitted with an environmental cell) of the fibers coated with the oleaginous cleansing agent. 35 Note that the cleansing agent depicted in Figure 5 is non-drippy.

Figure 6 is a graph of the thickness vs. pressure curve for the present product (curve A), as compared with the article of U.S. Patent 4,112,167, cited above (curve B). 40 The typical hand-pressure region is described by the vertical dashed lines.

The following describes the preparation of a preferred perineal cleansing "mitten" and means for constructing same. It will be appreciated by those skilled in the art that cleansing articles of various types can be constructed in similar fashion, without departing from the scope of this invention.

A preferred article of the present type is characterized by a fibrous web wiping surface having the approximate dimensions of 20.3 cm X 25.4 cm (8 in. X 10 in.) bonded to a web-backing, scrim, and rear backing to provide a mitten, and coated with an oleaginous cleansing agent, all as described in the Figures.

In the manufacture of the fibrous web, it is preferred that the fibers be as long as possible, since the longer the fiber, the fewer the bonds required to affix the fibrous web to the backing surface; and, the fewer the bonds, the higher the loft of the wiping surface. On a commercial basis, fibers in the size length of 7.6 cm to 20.3 cm (3 in.-8 in. uncrimped length) are passed through a standard Davis and Furber carding machine to provide a fibrous web comprising crimped fibers. The crimped fibers are of a length about 60% that of their original length in the relaxed state (ca. 8-16 crimps per 2.54 cm).

As disclosed hereinabove, it is preferred that the fibers be hydrophobic, and polyester fibers are convenient and preferred. For skin comfort, it is preferred that the fibers be in the range from 6 denier (0.0185 mm diameter) to 12 denier (0.037 mm) although fiber diameters outside this range, such as fibers as fine as 3 denier or less, can be used, according to the desires of the manufacturer, without departing from the spirit of this invention. For use on human skin, the 6 denier polyester fiber is quite comfortable and is preferred.

Using standard carding technology, the fibrous web of 6 denier polyester fiber is formed into a web having a basis weight of 25 grams per square meter. This type of web has a density in the frange from 0.0128 g/cm^3 in the uncompressed state, increasing to 0.04 g/cm^3 when compressed under ordinary hand pressure (7.75 g/cm^2 to 15.5 g/cm^2). Thickness is 6 mm to 8 mm (uncompressed).

The web-backing material can be selected from any suitable sheet substrate. The backing should be impermeable to feces or oleaginous materials, or, preferably, both, to provide protection for the user's hands. Flexible (0.02 mm to 0.06 mm thick) polyethylene is preferred for use as the web-backing.

In a highly preferred, but optional, mode, a scrim is affixed to the web backing on the side of the backing away from the fibrous web as shown in Figure 2. The scrim provides additional reinforcement, but, more importantly, provides purchase for the user's hands against the slick polyethylene web-backing, thereby helping maintain control of the wiping mitten during use. There is no particular limitation on the type of scrim employed, but a nylon scrim covered with any convenient thermoplastic material having a melting point near that of polyethylene is convenient.

Manufacture of the present article can be carried out by simply laying the polyester web onto the polyethylene web-backing, which is on top of the optional scrim. The polyester web is sealed around its edges to the web-backing and scrim by impulse heating using a heat sealer ($120-150^\circ\text{C}$) or other convenient means. The web is then sealed in a rectilinear pattern to spot-bond it to the web-backing. In the heating process, both the web-backing and coating on the scrim melt to provide bonding; the polyester fibers comprising the web are not melted at these temperature ranges. Sealing patterns other than rectilinear can be

used, according to the desires of the manufacturer, but an unduly large number of seals can unnecessarily flatten the fibrous web, thereby undesirably diminishing its capacity to retain solids. In article 10 of Figure 1, the seals are ca 2.54 cm on a side.

The assembly comprising the web/web-backing/scrims prepared in the foregoing manner can then be heat sealed around, for example, three-fourths of its periphery to a rear backing material. The preferred rear-backing material is a standard paper toweling, manufactured under the trademark BOUNTY. The assembly can be heat sealed to the paper backing. Of course, other types of rear backing materials can be employed, but it is convenient, and preferred, for hospital use that the rear backing be one which can absorb both water and oil, thereby being of assistance in patient cleansing, as may be required. Assembly is as depicted in Figure 2.

The fibrous web which comprises the wiping surface of articles of the foregoing type is releasably impregnated with an oleaginous cleansing agent. Impregnation can be done at any convenient time during manufacture, preferably after the component parts of the mitten are assembled and bonded together. A variety of oleaginous materials are suitable for this use; however, in order that the completed article be non-drippy, it is preferred that the cleansing agent be in solid or semi-solid form up to about 32°C. It is also preferred that the agent be an emollient for human skin. Any of the lipophilic cleansing agents of the type described in U.S. Patent 4,112,167, cited hereinabove, can be used for this purpose. A preferred oleaginous cleansing agent comprises the following mixture: Brij 72 (polyoxyethylene (2) stearyl ether; ICI America, Inc.) 10%; mineral oil 66%; hexadecanol 8%; and octadecanol 16%.

The cleansing agent is applied to the fibrous web at a rate of 4 grams per article (20.3 cm X 25.4 cm web).

Any convenient means of application can be used, but it is preferred that the cleansing agent be sprayed on the pad using a Wagner Airless sprayer, with the agent in molten form. Typically, using an Airless sprayer at a distance between spray nozzle and web surface of 10 cm provides good, non-drippy, uniform coverage of the fibrous web. Other application rates can be used (e.g., 2-8 g for an article of the foregoing dimensions) depending on the intended use of the article.

10 In use, an article of the foregoing type is simply wiped (usually, a single wipe suffices) across the surface being cleansed, and excellent removal of solid soil (e.g., fecal matter) is secured.

The cleansing articles of the present invention comprise: (1) a fibrous web having a high loft and high usable void volume, as disclosed hereinabove; (2) said web being stabilized by a web-backing material; and (3)
5 an oleaginous cleansing agent.

The Web

The web which comprises the wiping surface of the present articles and the containment means for particulate soil can be fashioned from a wide variety of resilient
10 fibers which are commercially available. Among such fibers there can be mentioned, for example, polyesters, nylons, rayons, polyethylene, polypropylene, and the like. The selection of the chemical composition of the fibers is not particularly important to the practice of
15 this invention, so long as the fibers are resilient to compression and are stable to the cleansing agent.

The fiber diameter can also vary over a wide range (from 0.01 mm to 0.05 mm) depending on the intended end-use of the article. Fibers below 0.009 mm in diameter
20 may be so fragile that they may be too compressed under normal hand pressure; fibers above 0.05 mm diameter may be perceived as "rough" when used on a sensitive surface such as skin.

The fibrous web can be made using standard carding
25 techniques to provide a network of fibers having a void volume in the range from 90% to 99%, preferably 98%. Preferably, the fibers are not bonded together in the web, since bonding decrease loft.

As noted hereinbefore, techniques other than carding,
30 such as airlaying, can be used to make the fibrous web of this invention so long as the web is a high loft web having the properties herein disclosed.

The web thickness, as manufactured, is generally in the range from 5 mm to 10 mm for a typical cleansing
35 article of the present type. Webs having a basis weight in the range from 17 to 70 g/m² are typical.

Typical webs used herein do not have sufficient inherent strength to maintain their integrity when used in their intended wiping mode. Accordingly, such webs are bonded to a web-backing, as disclosed hereinabove.

5 This is conveniently done by heat-sealing. However, if an inordinately large number of heat seals are employed, the loft of the web is unnecessarily and undesirably compressed, simply by virtue of the number of seal points. In order to minimize the number of seal points needed to

10 securely fasten the web to the web-backing, it is preferred that the longest available fibers be used to form the web. Fiber tow is quite useful in making the webs of this invention. Also, in general, fibers in the length from 7 cm to 30 cm (uncrimped length; crimped

15 length average from about 3 cm to 15 cm) are sufficiently long that, even when heat sealed to the web-backing, the fibrous web maintains an average thickness across the article approximately 85-90% that of the original web thickness. For example, an article of the type depicted

20 in Figure 1 sealed in a rectilinear pattern with the seals an average of 2.54 cm apart and made from a web approximately 6 mm in thickness will have a height of each individual "pillow" of webbing about 4.5-5 mm.

The Web-Backing

25 The selection of web-backing material employed herein is not particularly critical to the invention, and a wide variety of web-backings can be employed. While flexible backings are preferred for use in parparing mitten-type cleansing articles of the type shown in the figures, other

30 backings can also be used. One requirement for the web-backing is that it have sufficient structural integrity that it reenforces the fibrous web. Another requirement is that the web-backing be impermeable to feces, oleaginous agents, or both. An impermeable backing sheet which

35 backs substantially all of the fibrous web is preferred to protect the user's hand from undesired contact with both the oleaginous cleansing agent and particulate soil being

taken up in the void spaces of the web. Typical web-backings include impermeable (treated) paper, impermeable woven and non-woven fabrics, plastic and plastic laminates, and the like.

5

The Cleansing Agent

The oleaginous cleansing agents typically used herein are nonvolatile, nontoxic, substantially non-hygroscopic, and well-tolerated by skin.

10 In general, oleaginous cleansing agents useful herein are compounds or mixtures of compounds which are mainly paraffinic hydrocarbons and their common derivatives (e.g., fatty alcohols, acids and esters) which, when applied to the skin (or other surface being cleansed), spread over the skin's surface because of their low surface
15 tension against air (less than about 35 dynes per cm at 20°C).

Preferred oleaginous cleansing agents used with the article of the present invention are "non-dripping". That is, the agents are selected so that they adhere to the
20 fibers of the wiping surface until use. Preferred oleaginous cleansing agents have a rheology typical of pseudoplastic or plastic fluids. When no shear is applied, such plastic or pseudoplastic oleaginous cleansing agents have the appearance of a semi-solid, but can be made to
25 flow as the shear rate is increased (e.g., by wiping). These oleaginous cleansing agents exhibit decreasing viscosity with increasing shear rate. Preferred oleaginous cleansing agents have a viscosity no greater than 5,000 cps. when measured at a shear rate of 400 sec⁻¹ at a
30 temperature of 20°C. Included within this definition are silicone oils and waxes which, although non-paraffinic in

origin, satisfy the above specified physical criteria. These also desirably provide an emolliency benefit to skin being cleansed with the present articles.

Oleaginous cleansing agents are commonly used as oil-based skin cleansers in the cosmetic art. Specific examples of individual substances included in the term "oleaginous cleansing agents" are: paraffinic hydrocarbons (straight or branched chain, saturated or unsaturated), having chain lengths of from 16 to 60 carbon atoms, such as mineral oil (C_{16} to C_{20}) petrolatum (C_{16} to C_{32}), paraffin waxes (C_{20} to C_{40}) and microcrystalline waxes (C_{35} to C_{60}); alkyl esters derived from monocarboxylic fatty acids having from 12 to 28 carbon atoms and short chain (C_2 to C_8) monohydric alcohols, such as isopropyl laurate, isopropyl myristate, isopropyl palmitate, ethyl hexyl palmitate; alkyl esters derived from fatty alcohols (C_{12} to C_{28}) and short chain acids, e.g., lactic acid, such as lauryl lactate, cetyl lactate; fatty acids, fatty alcohols and fatty alcohol ethers having from 12 to 28 carbon atoms in their fatty chain, such as stearic acid, cetyl alcohol, ethoxylated and propoxylated fatty alcohols; glycerides, acetoglycerides, and ethoxylated glycerides of C_{12} to C_{28} fatty acids; other fatty esters of polyhydroxy alcohols; lanolin and its derivatives; polysiloxanes having a viscosity at 25°C of from 5 to 2,000 centistokes; and mixtures thereof.

The aforesaid materials can optionally be used in emulsion form as an oleaginous cleansing agent herein. For example, cleansing emulsions comprising any of the aforesaid cleansing agents and water, plus suitable emulsifier, can be prepared in well-known fashion and used to advantage as the oleaginous cleansing agent in articles of the present type. However, when used for removing fecal matter from human skin, it is preferred that the oleaginous cleansing agent be substantially free from water.

The following examples illustrate other embodiments of articles of the present invention, but are not intended to be limiting thereof.

EXAMPLE I

5 An article of the present type is manufactured in the form of a simple pad by affixing a 10 cm X 10 cm web of eight denier polyethylene fibers to a 10 cm X 10 cm flexible polyethylene web-backing sheet. The fibrous web is prepared using standard carding equipment from crimped
10 fibers having an average length of 7 cm; the web has a basis weight of 20 grams/m² and a thickness of 10 mm. The fibrous web is bonded to the web-backing using a heated rod to provide a web-bonding pattern in the form of three concentric circles on the face of the article,
15 and a separate bond completely around the four sides of the web. The average Z-direction thickness of the web on the resulting web/web-backing assembly is 8.5 mm.

 The fibrous web of the web/web-backing assembly prepared in the foregoing manner is uniformly coated with
20 three grams of an oleaginous cleansing agent comprising a 20:50:2 (wt.) mixture of mineral oil:petrolatum:silica gel.

 The article of Example I is suitable for use in a variety of cleaning situations where it is desirable to leave a oleaginous film on the surface being cleaned, and
25 where the surface being cleaned is contaminated with substantial amounts of solid waste. For example, the article of Example I is suitable for perineal cleansing of infants and incontinent patients, and is conveniently disposable. The article is also useful for removing
30 cosmetics from the face. Likewise, the article is quite useful for cleaning muddy metal surfaces, such as automobiles, motor cycles, and the like. When cleaning metal surfaces, the article is simply wiped across the surface, whereupon particulate matter present on the surface is
35 removed and contained within the fibrous web, while a protective oleaginous film is concurrently transferred to the metal surface.

EXAMPLE II

The articles of the present invention conveniently provide an oleaginous cleansing agent on their fibrous web wiping surface. When cleaning the perineal region of
5 incontinent patients and infants, for example, this agent is transferred to fecal matter to aid in its removal from perineal skin. In a less convenient mode, a web/web-backing pad-type assembly of the present type which does not contain the oleaginous cleansing agent can be used for
10 perineal cleaning, and the like. When so doing, an oleaginous cleansing agent such as mineral oil, or the like, is poured or spread onto the fecal matter, and, thereafter, the fecal matter is wiped away using the web/web-backing assembly.

15 In a typical patient cleansing operation, the perineal region of an incontinent adult patient is cleansed from fecal residues by applying ca. 4 ml. of medium-grade mineral oil to the feces and soiled skin area, and, thereafter, wiping the area with a web/web-backing assembly
20 of the type described in Example I.

As can be seen from the foregoing, the present invention encompasses a cleansing process comprising wiping a soiled surface with the herein-described web/web-backing assembly in the presence of sufficient oleaginous cleanser
25 to assist removing the solid soil from the surface being cleansed.

CLAIMS

1. A cleansing article comprising a web of fibrous material of basis weight in the range from 17 g/m^2 - 70 g/m^2 releasably containing an oleaginous substantially water-free cleansing agent characterised in that the web (1) comprises (a) a high loft wiping surface formed of resilient fibers, the web having a high usable void volume under compression and (b) a web backing material (2) secured to the web.
- 10 2. An article according to Claim 1 wherein said web has an uncompressed thickness in the range from 2 mm to 15 mm, preferably from 4 mm to 5 mm.
3. An article according to either one of Claims 1 or 2 wherein said web has a density which increases on
15 compression from 0.01 g/cm^3 uncompressed to 0.04 g/cm^3 when compressed under hand pressure.
4. An article according to any one of Claims 1-3 wherein the usable void volume of said web under a compression of from 7.75 g/cm^2 to 15.5 g/cm^2 is at least
20 90% of the void volume of the uncompressed web.
5. An article according to any one of Claims 1-4 wherein the fibers comprising said web are crimped.
6. An article according to any one of Claims 1-5 wherein said resilient fibers are hydrophobic.
- 25 7. An article according to Claim 6 wherein the average fiber diameter is in the range from 0.009 mm to 0.075 mm.
8. An article according to Claim 7 wherein said fibers are crimped polyester fibers having an average diameter from 0.0185 mm to 0.037 mm.

9. An article according to any one of Claims 5-8 wherein said fibers have an average length, in the crimped state, in the range from 7.6 cm to 15.5 cm.

10. A cleansing article according to any one of Claims
5 1 to 9 especially adapted for removing fecal matter from skin, characterised in that the web and web backing material form an assembly, said assembly being affixed to a rear backing to provide a mitten-like article.

11. An article according to Claim 10 wherein said rear
10 backing is an absorbent sheet.

12. A process for cleaning fecal matter from skin comprising contacting said fecal matter with sufficient of a substantially water-free oleaginous cleansing agent to assist in the removal of the fecal matter from the skin
15 and wiping the skin with an article comprising a web of fibrous material to remove said fecal matter characterised in that the skin is wiped with an assembly comprising
a) a web having a high loft wiping surface composed of resilient fibers, said web having a high usable void
20 volume under compression, and b) a web-backing material affixed to said web.

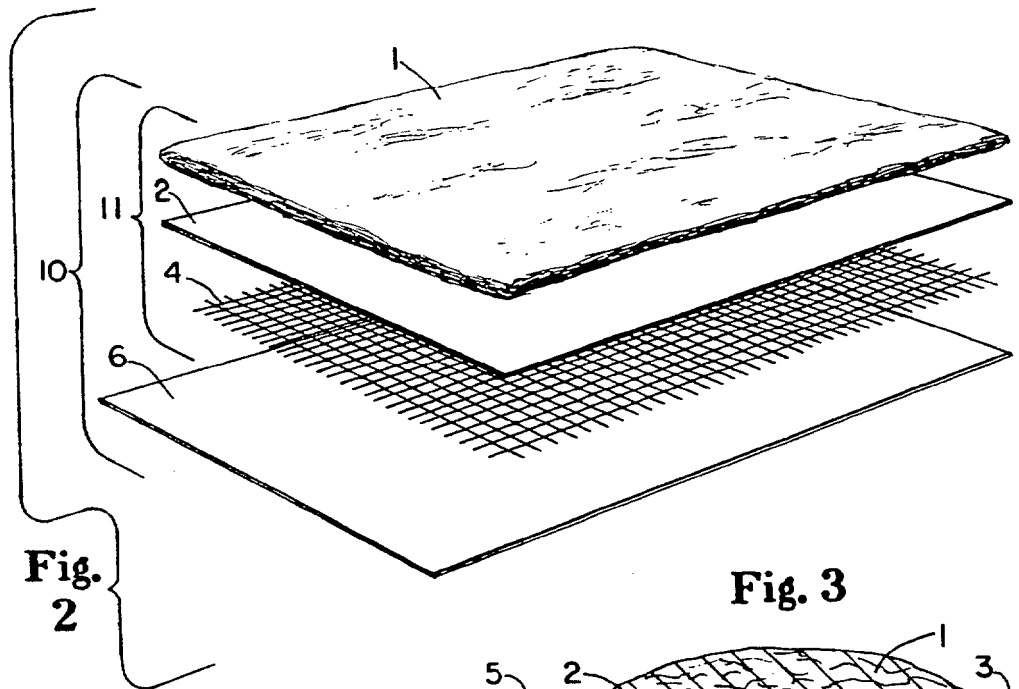
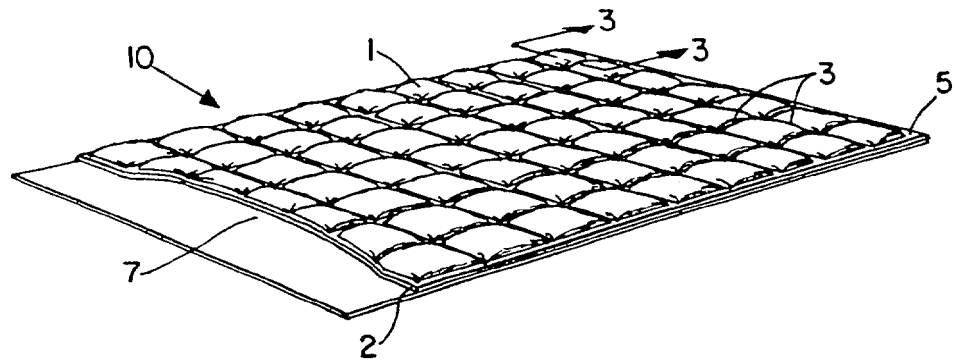
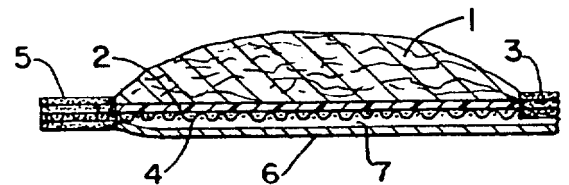
Fig. 1**Fig. 3**

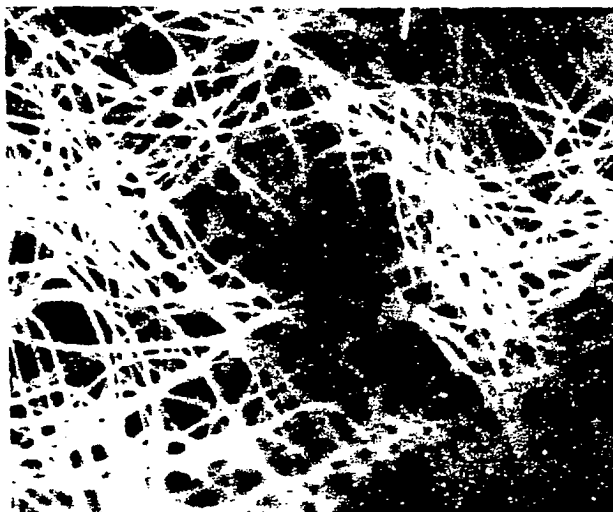
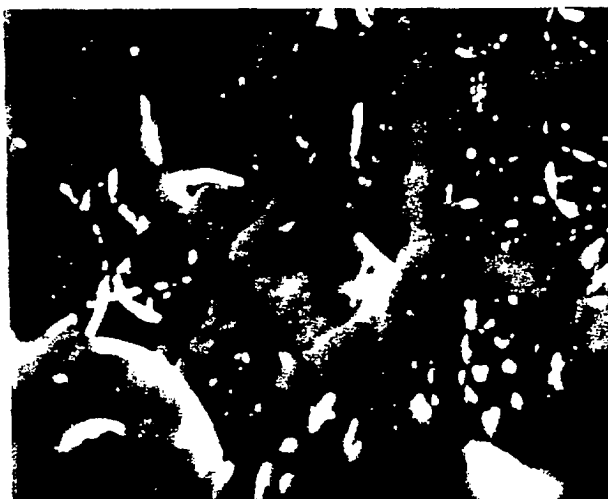
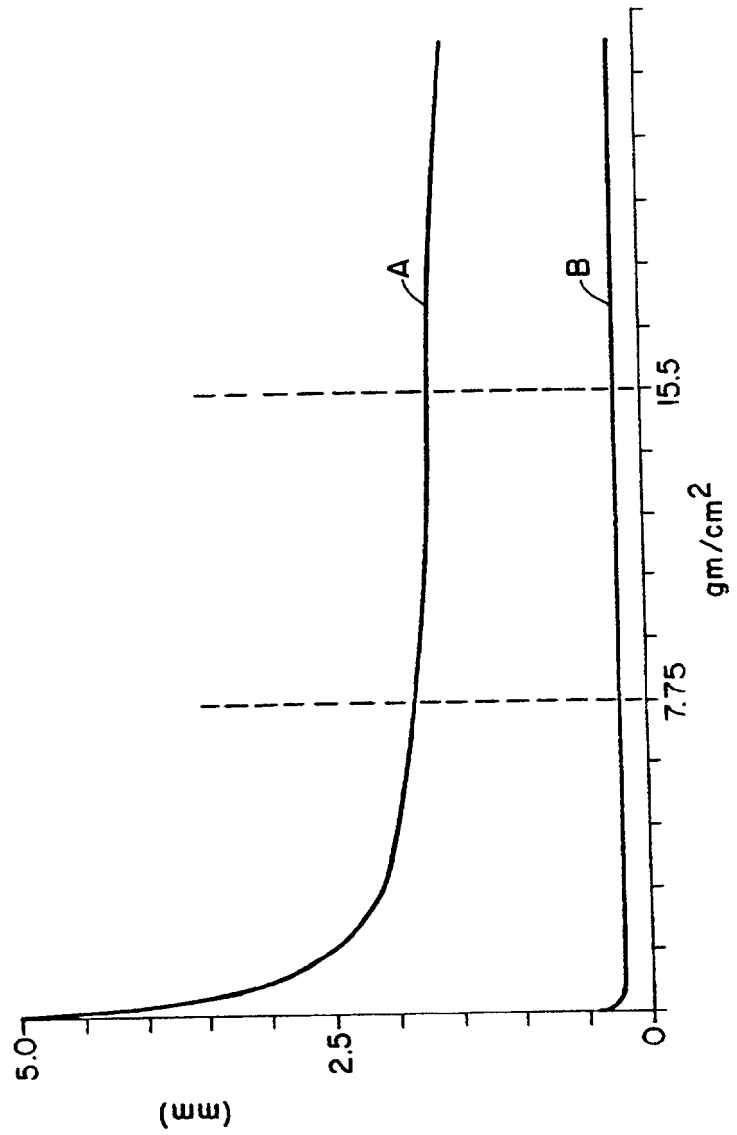
Fig. 4**Fig. 5**

Fig. 6



12

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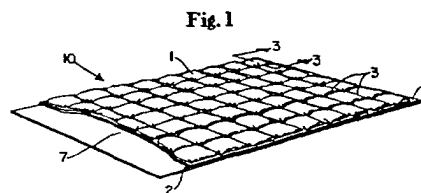
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54 Cleansing article and method of use thereof.

57 A cleansing article especially adapted for the care and maintenance of the perineal area of infants or incontinent patients comprises a high loft wiping surface made up of a web (1) of resilient fibers. Said fiber web (1) is characterized by a high usable void volume, even under hand pressure. For stability, the fibrous web (1) is affixed to a web-backing material (2). The web releasably contains an oleaginous cleansing agent. In use, the article is employed as a wiping pad with the web (1) in contact with the patient's skin. When wiped across skin soiled with fecal matter, the oleaginous cleansing agent is released from the web to coat skin and fecal matter to prevent spreading and redeposition. The high usable void volume of the wiping surface provides a high retention capacity for the fecal matter, thereby affording its convenient removal and sanitary disposal. The web-backing material (2) provides dimensional stability to the web and protects the user's hand from contact with fecal matter or oleaginous cleansing agent.



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| DOCUMENTS CONSIDERED TO BE RELEVANT | | | CLASSIFICATION OF THE APPLICATION (Int. Cl.) |
|--|---|-------------------|--|
| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | |
| DA | <u>GB - A - 1 010 935</u> (UNION CAR-BIDE) * Page 1, lines 64-90; page 2, lines 1-13; page 4, lines 12-130; page 4, lines 1-39; figures 1,2,3 * | 1 | A 47 K 10/16 7/03 |
| | -- | | |
| | <u>US - A - 3 846 158</u> (VASILYADIS) * Column 3, lines 31-75; column 4, lines 1-56; column 5, lines 58-75; column 6, lines 1-15; figures 1,2,3 * | 1,12 | TECHNICAL FIELDS SEARCHED (Int. Cl.) |
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| | <u>US - A - 4 112 167</u> (DAKE) * Column 4, lines 63-68; column 5, lines 1-68; column 6, lines 1-15; figures 1,2 * | 1 | |
| | ---- | | &: member of the same patent family, corresponding document |
| <input checked="" type="checkbox"/> The present search report has been drawn up for all claims | | | |
| Place of search | Date of completion of the search | Examiner | |
| The Hague | 29-04-1981 | SCHOLS | |

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